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EXAMINER

KADING, JOSHUA A

ART UNIT PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/612,067

Applicant(s)

NAUMANN, JOEL

Examiner

Joshua Kading

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-10 and 12-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-10 and 12-24 is/are rejected.
- 7) ☒ Claim(s) 4-9,14 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claims 4-9, 14, and 21 are objected to because of the following informalities:

Claims 4-9 disclose "The apparatus..." It should be changed to --The method...--.

5 Claims 6, 14, and 21 disclose "T1/E1 framer/line interface". It should be changed to --T1/E1 framer or line interface--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

10 The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

15 Claims 22 and 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the
20 invention.

Claim 22 discloses "said front card and said back card are coupled via a TDM bus"; and claim 23, which depends on claim 22, discloses "said front card comprises an ATM SAR, and said back card comprises an ATM Phy". However, the specification on page 15, table 1 discloses that a TDM bus is used with an "HDLC control" card and a
25 "T1/E1 framer or line interface" not an "ATM SAR" card and an "ATM Phy" card as

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disclosed in claims 22 and 23. How can a TDM bus couple an ATM SAR card and ATM
Phy card?

Claim Rejections - 35 USC § 103

5 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

10 (a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negated by the manner in which the invention was made.

15 Claims 1, 3-10, 12-21, and 24 are rejected under 35 U.S.C. 103(a) as being
unpatentable over applicant's admitted prior art in view of Bontemps et al. (U.S. Patent
5,923,663).

20 In regards to claim 1, applicant's admitted prior art discloses "a communication
system having a router, said router having a PCI-compliant front card, said front card
begin configured to accept a LAN or WAN compliant back card, a method for detecting
the absence of a Phy Layer device on the back card and communicating said absence
to the front card, said method comprising:

 receiving, by... the front card, a sensing signal from the back card (Specification,
page 3, lines 2-14)..."

25 However, applicant's admitted prior art fails to teach "...a switching input of a tri-
state buffer..." and "if said sensing signal is a logical low, then coupling a IDSEL signal
corresponding to a particular channel of said back card to said front card; and if said

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sensing signal is not low, then decoupling said IDSEL signal from said front card and providing a logical low signal in the place of said IDSEL line.”

Bontemps however, discloses “...a switching input of a tri-state buffer (figure 2, element 222 and figure 4 where element 222 is the function equivalent of the tri-state
5 buffer by allowing a select signal to be asserted when a device is detected as can be read in col. 11, lines 25-38)...” and “if said sensing signal is a logical low, then coupling a IDSEL signal corresponding to a particular channel of said back card to said front card; and if said sensing signal is not low, then decoupling said IDSEL signal from said front card and providing a logical low signal in the place of said IDSEL line (col. 11, lines
10 25-38; it is noted that although Bontemps does not disclose the sensing signal to be low when the select signal is coupled, it is a matter of design choice how the sensing signal is interpreted because there are only two states and if one state, such as low, affects the response of coupling, then the other state, in this case high, will result in the decoupling or opposite response; it is also noted that although the “toggle state” of
15 Bontemps is not consistently providing a “logical low” in response to a given state of the sensing line, it is providing the same effect of decoupling the select line).”

It would have been obvious to one with ordinary skill in the art at the time of invention to include the “tri-state buffer” and the “coupling/decoupling of the IDSEL line” with the front and back cards of applicant’s admitted prior art for the purpose of allowing
20 detection of devices to a port. The motivation being quicker establishment of communication links through detected devices by eliminating a “trial and error” approach to appropriately connecting devices.

In regard to claim 3, applicant's admitted prior art and Bontemps disclose "the method of claim 1". However, applicant's admitted prior art lacks "said tri-state buffer further has an input and an output, said input and output being serially disposed on a
5 IDSEL line corresponding to a particular channel." Bontemps however, further discloses "said tri-state buffer further has an input and an output, said input and output being serially disposed on a IDSEL line corresponding to a particular channel (figure 2, element 22 and figure 4, where the input and outputs of element 222 are serially disposed on a particular channel corresponding to a particular port)." It would have been
10 obvious to one with ordinary skill in the art at the time of invention to include the input and output of the tri-state buffer with the method of claim 1 for the same reasons and motivation as in claim 1.

In regard to claim 4, applicant's admitted prior art and Bontemps disclose "[the
15 method] of claim 1". However, Bontemps lacks "said front card comprises and FE MAC, and said back card comprises an FE Phy." Applicant's admitted prior art however, further discloses "said front card comprises and FE MAC, and said back card comprises an FE Phy (figure 1, elements 100 and 101)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the FE MAC and FE Phy with
20 the method of claim 1 for the same reasons and motivation as in claim 1.

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In regard to claim 5, applicant's admitted prior art and Bontemps disclose "[the method] of claim 4". However, Bontemps lacks "said front card and said back card are coupled via an MII bus." Applicant's admitted prior art however, further discloses "said front card and said back card are coupled via an MII bus (figure 2, element 114)." It

5 would have been obvious to one with ordinary skill in the art at the time of invention to include the MII bus with the method of claim 4 for the same reasons and motivation as in claim 4.

In regard to claim 6, applicant's admitted prior art and Bontemps disclose "[the
10 method] of claim 1". However, applicant's admitted prior art and Bontemps lack "said front card comprises an HDLC control, and said back card comprises a T1/E1 framer [or] line interface." Although both applicant's admitted prior art and Bontemps lack "the HDLC control" and "T1/E1 framer or line interface", it would have been obvious to one with ordinary skill in the art to include these with the method of claim 1 as a matter of
15 design choice. As can be seen in applicant's specification, page 15, lines 5-13 these devices are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing HDLC control versus ATM SAR (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different devices would be based on the type of network and
20 the requirements needed for communication.

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In regard to claim 7, applicant's admitted prior art and Bontemps disclose "[the method] of claim 6". However, applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a TDM bus." Although both applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled
5 via a TDM bus", it would have been obvious to one with ordinary skill in the art to include this with the method of claim 6 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these coupling means are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing a TDM bus versus a MII bus (as can be seen
10 in Table 1) is a matter of design choice. The motivation for choosing the different bus would be based on the type of network and the requirements needed for communication.

In regard to claim 8, applicant's admitted prior art and Bontemps disclose "[the
15 method] of claim 1". However, applicant's admitted prior art and Bontemps lack "said front card comprises an ATM SAR, and said back card comprises an ATM Phy."
Although both applicant's admitted prior art and Bontemps lack "the ATM SAR" and "ATM Phy", it would have been obvious to one with ordinary skill in the art to include these with the method of claim 1 as a matter of design choice. As can be seen in
20 applicant's specification, page 15, lines 5-13 these devices are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing ATM SAR versus HDLC control (as can be

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seen in Table 1) is a matter of design choice. The motivation for choosing the different devices would be based on the type of network and the requirements needed for communication.

5 In regard to claim 9, applicant's admitted prior art and Bontemps disclose "[the method] of claim 8". However, applicant's admitted prior art and Botnemps lack "said front card and said back card are coupled via a Utopia bus." Although both applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a Utopia bus", it would have been obvious to one with ordinary skill in the art to
10 include this with the method of claim 8 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these coupling means are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing a Utopia bus versus a MII bus (as can be
15 seen in Table 1) is a matter of design choice. The motivation for choosing the different bus would be based on the type of network and the requirements needed for communication.

 In regard to claim 10, applicant's admitted prior art discloses "a communication system having a router, said router having a PCI-compliant front card, said front card
20 begin configured to accept a LAN or WAN compliant back card, an apparatus for detecting the absence of a Phy Layer device on the back card and communicating said absence to the front card (background of specification and figures 1 and 2)..."

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However, applicant's admitted prior art lacks "means for switching disposed on the front card comprising a tri-state buffer wherein said tri-state buffer has an input, an output, and a switching input wherein said input and output of said tri-state buffer being serially disposed on said front card and said switching input of said tri-state buffer is

5 configured to be coupled to said back card; said means for switching being configured to receive a sensing signal from the back card, said sensing signal having a first and second state; said means for switching being further configured to provide a predetermined signal to said front card responsive to said state of sensing signal."

Bontemps however, discloses "means for switching disposed on the front card

10 comprising a tri-state buffer wherein said tri-state buffer has an input, an output, and a switching input wherein said input and output of said tri-state buffer being serially disposed on said front card and said switching input of said tri-state buffer is configured to be coupled to said back card; said means for switching being configured to receive a sensing signal from the back card, said sensing signal having a first and second state;

15 said means for switching being further configured to provide a predetermined signal to said front card responsive to said state of sensing signal (figure 2, element 222 and figure 4 where element 222 is the function equivalent of the tri-state buffer by allowing a select signal to be asserted when a device is detected as can be read in col. 11, lines 25-38)."

20 It would have been obvious to one with ordinary skill in the art at the time of invention to include the "tri-state buffer" with the front and back cards of applicant's admitted prior art for the purpose of allowing detection of devices to a port. The

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motivation being quicker establishment of communication links through detected devices by eliminating a "trial and error" approach to appropriately connecting devices.

In regard to claim 12, applicant's admitted prior art and Bontemps disclose "the
5 apparatus of claim 10". However, Bontemps lacks "said front card comprises and FE
MAC, and said back card comprises an FE Phy." Applicant's admitted prior art however,
further discloses "said front card comprises and FE MAC, and said back card comprises
an FE Phy (figure 1, elements 100 and 101)." It would have been obvious to one with
ordinary skill in the art at the time of invention to include the FE MAC and FE Phy with
10 the apparatus of claim 10 for the same reasons and motivation as in claim 10.

In regard to claim 13, applicant's admitted prior art and Bontemps disclose "the
apparatus of claim 12". However, Bontemps lacks "said front card and said back card
are coupled via an MII bus." Applicant's admitted prior art however, further discloses
15 "said front card and said back card are coupled via an MII bus (figure 2, element 114)."
It would have been obvious to one with ordinary skill in the art at the time of invention to
include the MII bus with the apparatus of claim 12 for the same reasons and motivation
as in claim 12.

20 In regard to claim 14, applicant's admitted prior art and Bontemps disclose "the
apparatus of claim 10". However, applicant's admitted prior art and Bontemps lack "said
front card comprises an HDLC control, and said back card comprises a T1/E1 framer

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[or] line interface." Although both applicant's admitted prior art and Bontemps lack "the HDLC control" and "T1/E1 framer or line interface", it would have been obvious to one with ordinary skill in the art to include these with the apparatus of claim 10 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these devices are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing HDLC control versus ATM SAR (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different devices would be based on the type of network and the requirements needed for communication.

10

In regard to claim 15, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 14". However, applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a TDM bus." Although both applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a TDM bus", it would have been obvious to one with ordinary skill in the art to include this with the apparatus of claim 14 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these coupling means are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing a TDM bus versus a MII bus (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different bus would be based on the type of network and the requirements needed for communication.

20

In regard to claim 16, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 10". However, applicant's admitted prior art and Bontemps lack "said front card comprises an ATM SAR, and said back card comprises an ATM Phy."

5 Although both applicant's admitted prior art and Bontemps lack "the ATM SAR" and "ATM Phy", it would have been obvious to one with ordinary skill in the art to include these with the apparatus of claim 10 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these devices are chosen based on the type of network or on requirements for communication and not chosen based on

10 applicant's invention. Therefore, choosing ATM SAR versus HDLC control (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different devices would be based on the type of network and the requirements needed for communication.

15 In regard to claim 17, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 10". However, applicant's admitted prior art and Botnemps lack "said front card and said back card are coupled via a Utopia bus." Although both applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a Utopia bus", it would have been obvious to one with ordinary skill in the art to

20 include this with the apparatus of claim 10 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these coupling means are chosen based on the type of network or on requirements for communication and not chosen based on

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applicant's invention. Therefore, choosing a Utopia bus versus a MII bus (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different bus would be based on the type of network and the requirements needed for communication.

5

In regard to claim 18, applicant's admitted prior art discloses "an apparatus for detecting the absence of a LAN or WAN compliant device, said apparatus comprising: a PCI-compliant front card, said front card being configured to accept a LAN or WAN compliant back card (Background section of the specification and figures 1 and 2)..."

10

However, applicant's admitted prior art lacks "said front card further having a switch, said switch being a tri-state buffer and being serially disposed on a IDSEL connection corresponding to a particular channel on said front card, said switch being further configured to receive a sensing signal corresponding to said channel from said device by switching input of said tri-state buffer; and wherein said apparatus is

15

configured to couple said IDSEL connection to said front card if said sensing signal is in a first state, and provide a low potential to said front card if said sensing signal is in a second state."

20

Bontemps however, discloses "said front card further having a switch, said switch being a tri-state buffer and being serially disposed on a IDSEL connection corresponding to a particular channel on said front card, said switch being further configured to receive a sensing signal corresponding to said channel from said device by switching input of said tri-state buffer (figure 2, element 222 and figure 4 where

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element 222 is the function equivalent of the tri-state buffer by allowing a select signal to be asserted when a device is detected as can be read in col. 11, lines 25-38;); and wherein said apparatus is configured to couple said IDSEL connection to said front card if said sensing signal is in a first state, and provide a low potential to said front card if

5 said sensing signal is in a second state (col. 11, lines 25-38; it is noted that although Bontemps does not disclose the sensing signal to be low when the select signal is coupled, it is a matter of design choice how the sensing signal is interpreted because there are only two states and if one state, such as low, affects the response of coupling, then the other state, in this case high, will result in the decoupling or opposite response;

10 it is also noted that although the "toggle state" of Bontemps is not consistently providing a "logical low" in response to a given state of the sensing line, it is providing the same effect of decoupling the select line)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the "tri-state buffer" and the "coupling of the IDSEL line" with the

15 front and back cards of applicant's admitted prior art for the purpose of allowing detection of devices to a port. The motivation being quicker establishment of communication links through detected devices by eliminating a "trial and error" approach to appropriately connecting devices.

20 In regard to claim 19, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 18". However, Bontemps lacks "said front card comprises and FE MAC, and said back card comprises an FE Phy." Applicant's admitted prior art however,

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further discloses "said front card comprises and FE MAC, and said back card comprises an FE Phy (figure 1, elements 100 and 101)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the FE MAC and FE Phy with the apparatus of claim 18 for the same reasons and motivation as in claim 18.

5

In regard to claim 20, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 19". However, Bontemps lacks "said front card and said back card are coupled via an MII bus." Applicant's admitted prior art however, further discloses "said front card and said back card are coupled via an MII bus (figure 2, element 114)."

10 It would have been obvious to one with ordinary skill in the art at the time of invention to include the MII bus with the apparatus of claim 19 for the same reasons and motivation as in claim 19.

In regard to claim 21, applicant's admitted prior art and Bontemps disclose "the
15 apparatus of claim 20". However, applicant's admitted prior art and Bontemps lack "said front card comprises an HDLC control, and said back card comprises a T1/E1 framer [or] line interface." Although both applicant's admitted prior art and Bontemps lack "the HDLC control" and "T1/E1 framer or line interface", it would have been obvious to one with ordinary skill in the art to include these with the apparatus of claim 20 as a matter
20 of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these devices are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing HDLC control

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versus ATM SAR (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different devices would be based on the type of network and the requirements needed for communication.

5 In regard to claim 24, applicant's admitted prior art and Bontemps disclose "the apparatus of claim 18". However, applicant's admitted prior art and Botnemps lack "said front card and said back card are coupled via a Utopia bus." Although both applicant's admitted prior art and Bontemps lack "said front card and said back card are coupled via a Utopia bus", it would have been obvious to one with ordinary skill in the art to
10 include this with the apparatus of claim 18 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these coupling means are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing a Utopia bus versus a MII bus (as can be
15 seen in Table 1) is a matter of design choice. The motivation for choosing the different bus would be based on the type of network and the requirements needed for communication.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (703) 305-
20 0342. The examiner can normally be reached on M-F: 8:30AM-5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

- 5 Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic
- 10 Business Center (EBC) at 866-217-9197 (toll-free).

Joshua Kading
Examiner
Art Unit 2661



JK
February 17, 2004

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KENNETH VANDERPUYE
PRIMARY EXAMINER